ISSN 0021-5198

# THE JAPANESE JOURNAL OF PHARMACOLOGY

Volume 78 1998

Official Publication
of
The Japanese Pharmacological
Society

THE JAPANESE JOURNAL OF

# PHARMACOLOGY

Published Monthly by The Japanese Pharmacological Society

Volume 78 1998

http://wwwsoc.nacsis.ac.jp/tjps/jjp

**Chief Editor**
Masamichi Satoh (Kyoto)

**Press Editor**
Akinori Akaike (Kyoto)

**Editors**
Youichi Abe (Kagawa)
Toshihiko Iijima (Akita)
Mitsuru Kawaguchi (Chiba)
Yasushi Kuraishi (Toyama)
Norio Matsuki (Tokyo)
Toshitaka Nabeshima (Nagoya)
Eiichiro Okabe (Yokosuka)
Kohtaro Taniyama (Nagasaki)

**Language Editor**
S.M. Jung

**Editorial Assistant**
Y. Takezaki

**European Editor**
Ezio Giacobini (Geneva, Switzerland)

**North American Editor**
Tony J.F. Lee (Springfield, IL, USA)

**Editorial Advisory Board**
T. Dohi (Hiroshima)
H. Endou (Mitaka)
K. Fuji (Uji)
C. Hamada (Tokyo)
H. Ishida (Tokushima)
S. Kaneko (Kyoto)
K. Kawashima (Tokyo)
K. Kimura (Kyoto)
S. Kobayashi (Kawasaki)
M. Minami (Hokkaido)
M. Misawa (Tokyo)
H. Mori (Gifu)
I. Muramatsu (Fukui)
M. Nomoto (Kagoshima)
S. Oh-ishi (Tokyo)
S. Ohkuma (Kurashiki)
K. Onodera (Sendai)
H. Ozaki (Tokyo)
K. Takahama (Kumamoto)
H. Ueda (Nagasaki)
T. Urushidani (Tokyo)
Y. Yamaguchi (Tokyo)
H. Yamamoto (Wakayama)
K. Yamamoto (Fukuoka)
Y. Yamazoe (Sendai)
M. Yoshioka (Sapporo)

**International Advisory Board**
J.E. Brayden (Burlington, VT, USA)
P. Dominiak (Lübeck, Germany)
A. Fisher (Ness Ziona, Israel)
E. Hamel (Montreal, Canada)
M.D. Linnik (San Diego, CA, USA)
K. Löffelholz (Mainz, Germany)
G. Pepeu (Florence, Italy)
J. Tamargo (Madrid, Spain)
L.F. Tseng (Milwaukee, WI, USA)

**Abstracted/Indexed in**

Biological Abstracts (BIOSIS), Chemical Abstracts, EMBASE/Excerpta Medica, Index Medicus (MEDLINE), Current Contents/Life Sci. (CC/LS), Reference Update (RIS), Elsevier BIOBASE/Current Awareness in Biological Sciences, ISI/BIOMED

**Editorial and Publishing Correspondence**

Editorial Office, The Japanese Pharmacological Society, Kantohya bldg, Gokomachi-Ebisugawa, Nakagyo-ku, Kyoto 604–0982, Japan
TEL +81–75–252–4641／FAX +81–75–252–4618, E-mail: LDB00573@nifty.ne.jp Information for contributors is printed at the end of each issue.

**Subscription Information**

Volumes 76–78 (12 issues plus Supplement) will appear in 1998. Subscription orders can be entered only by calendar year.
Subscription/Back issue orders and inquiries should be sent to:
All orders inside Japan and individual orders outside Japan: the Editorial Office at the address given above.
Annual subscription rate is ¥20,000 including postage.
Institutional orders outside Japan: Maruzen Co., Ltd., Export Department, P.O. Box 5050, Tokyo International 100–3199, Japan
TEL +81–3–3273–3234／FAX +81–3–3271–6076. Annual subscription rate is US$325.00 including SAL mail postage.
Microfilm/Microfiche editions are available from University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106, USA

Permission to reproduce, in whole or in part, any material published in this Journal must be obtained in written form from both the author of the article and the Publisher, the Editorial Office of The Japanese Pharmacological Society at the address given above.

**Notice about photocopying:** In order to photocopy any work from this publication, you or your organization must obtain permission from either of the following organizations that have been delegated for copyright clearance by the copyright owner of this publication:
In all countries except for the USA: The Copyright Council of the Academic Societies (CCAS), 41–6 Akasaka 9-chome, Minato-ku, Tokyo 107–0052, Japan
TEL／FAX +81–3–3475–5618
In the USA: Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923, USA TEL 978–750–8400／FAX 978–750–4744

**Copyright** © The Japanese Pharmacological Society 1998

# CONTENTS

Volume 78 • 1998

## Reviews


**Number 2 October 1998**

**Purinergic Signalling: Pathophysiological Roles** — Maria P. Abbracchio and Geoffrey Burnstock — 113

**Number 4 December 1998**

**—Current Perspective—**
**Senescence-Accelerated Mouse (SAM) as an Animal Model of Senile Dementia: Pharmacological, Neurochemical and Molecular Biological Approach** — Yasunobu Okuma and Yasuyuki Nomura — 399

**—Current Perspective—**
**ATP Receptors for the Protection of Hippocampal Functions** — Kazuhide Inoue — 405

**—Current Perspective—**
**Subspecies-Specific Targeting Mechanism of Protein Kinase C** — Yasuhito Shirai, Norio Sakai and Naoaki Saito — 411


## Regular Papers


**Number 1 September 1998**

**Pharmacological Studies on the Novel Antiallergic Drug HQL-79: I. Antiallergic and Antiasthmatic Effects in Various Experimental Models** — Nobutoshi Matsushita, Masanori Hizue, Kosuke Aritake, Kumi Hayashi, Ayumi Takada, Kazuhiko Mitsui, Masatoshi Hayashi, Ichiro Hirotsu, Yoshiyuki Kimura, Tadato Tani and Hiromichi Nakajima — 1

**Pharmacological Studies on the Novel Antiallergic Drug HQL-79: II. Elucidation of Mechanisms for Antiallergic and Antiasthmatic Effects** — Nobutoshi Matsushita, Kosuke Aritake, Ayumi Takada, Masanori Hizue, Kumi Hayashi, Kazuhiko Mitsui, Masatoshi Hayashi, Ichiro Hirotsu, Yoshiyuki Kimura, Tadato Tani and Hiromichi Nakajima — 11

**Protective Effect of Talipexole on MPTP-Treated Planarian, a Unique Parkinsonian Worm Model** — Yoshihisa Kitamura, Jun-ichi Kakimura and Takashi Taniguchi — 23

**Time-Dependent Changes in the Ischemic Forebrain Following the Microsphere-Induced Permanent Occlusion of Cerebral Arterioles in Rats** — Kayoko Okuyama, Satoko Kiuchi, Masahito Okamoto, Hitoshi Iwasaki, Hiroshi Narita and Yukitsuka Kudo — 31

**Inhibitory Effects of Bifemelane on Brain $Ca^{2+}$ Channel Subtypes Expressed in *Xenopus* Oocytes** — Mariko Kinoshita, Shuji Kaneko, Tohru Yasuno, Nobumichi Yada, Akinori Akaike and Masamichi Satoh — 39

**Angiotensin II Type 1-Receptor Antagonist Candesartan Cilexitil Prevents Left Ventricular Dysfunction in Myocardial Infarcted Rats** — Akihisa Hanatani, Minoru Yoshiyama, Kazuhide Takeuchi, Shokei Kim, Koji Nakayama, Takashi Omura, Hiroshi Iwao, and Junichi Yoshikawa — 45

**Transmethylation Reactions and Autoradiographic Distribution of Vitamin $B_{12}$: Effects of Clioquinol Treatment in Mice** — Mohammed S. Yassin, Jonas Ekblom, Charlotta Löfberg and Lars Oreland — 55

## Number 2 October 1998


| | | |
|---|---|---|
| **Gastric Acid Secretion Is Augmented by the Replacement of Extracellular $Na^+$ With $K^+$ or Other Ions** | Keiko Akagi, Ko Hasebe, Kazuo Watanabe, Taku Nagao and Tetsuro Urushidani | 147 |
| **Inhibitory Effect of Tranilast on Hypertrophic Collagen Production in the Spontaneously Hypertensive Rat Heart** | Kazuo Umemura, Shinji Kikuchi, Yasuhiro Suzuki and Mitsuyoshi Nakashima | 161 |
| **Requirement of Cytokines for Augmentation of the Antigen-Specific Antibody Responses by Ascorbate in Cultured Murine T-Cell-Depleted Splenocytes** | Hitoshi Mitsuzumi, Makoto Kusamiya, Takafumi Kurimoto and Itaru Yamamoto | 169 |
| **Acetylcholine-Induced Biphasic Effect on the Maximum Upstroke Velocity of Action Potential in Mouse Right Atria: Interaction With $\beta$-Adrenergic Signaling Cascade** | Md. Amirul Islam, Hiroshi Nojima and Ikuko Kimura | 181 |
| **Comparison of the Anticoagulant and Antithrombotic Effects of YM-75466, a Novel Orally-Active Factor Xa Inhibitor, and Warfarin in Mice** | Kazuo Sato, Yuta Taniuchi, Tomihisa Kawasaki, Fukushi Hirayama, Hiroyuki Koshio, Yuzo Matsumoto and Yuichi Iizumi | 191 |
| **Mechanisms of Protection by *S*-Allylmercaptocysteine Against Acetaminophen-Induced Liver Injury in Mice** | Isao Sumioka, Tatsuya Matsura, Shigeo Kasuga, Yoichi Itakura and Kazuo Yamada | 199 |
| **Two Types of Relaxation-Mediating $P_2$ Receptors in Rat Gastric Circular Muscle** | Ken-ichi Otsuguro, Toshio Ohta, Shigeo Ito and Yoshikazu Nakazato | 209 |
| **Functional Studies on Blockade by Neosurugatoxin of Nicotinic Receptors in Nitroxidergic and Sensory Nerve Terminals and Intramural Ganglionic Cells** | Kazuhide Ayajiki, Tomio Okamura, Hideyuki Fujioka, Koichi Nakayama, Kuniro Tsuji and Noboru Toda | 217 |


## Number 3 November 1998


| | | |
|---|---|---|
| **Memory Facilitation and Stimulation of Endogenous Nerve Growth Factor Synthesis by the Acetylcholine Releaser PG-9** | Carla Ghelardini, Nicoletta Galeotti, Alessandro Bartolini, Shoei Furukawa, Atsumi Nitta, Dina Manetti and Fulvio Gualtieri | 245 |
| **Serotonin-Independent Model of Cisplatin-Induced Emesis in the Ferret** | John A. Rudd, Celine H.K. Cheng and Robert J. Naylor | 253 |
| **Effects of KRN4884 (a Novel $K^+$ Channel Opener), Levcromakalim, Nilvadipine and Propranolol on Endothelin-1-Induced Heart Disorders in Anesthetized Rats** | Katsuhiko Harada, Jun-ichi Kawahara, Yuji Okada, Hiroya Uzumaki, Masaru Kusaka and Tomonobu Tokiwa | 261 |
| **Effects of YT-146 [2-(1-Octynyl) Adenosine], an Adenosine $A_{2A}$ Receptor Agonist, on cAMP Production and Noradrenaline Release in PC12 Cells** | Tomoyuki Ono, Isao Matsuoka, Satoko Ohkubo, Junko Kimura and Hironori Nakanishi | 269 |
| **Salivary Amylase Activity of Rats Fed a Low Calcium Diet** | Pao-Li Wang, Shinya Shirasu, Mitsuko Shinohara, Noboru Murakawa, Masaki Endo, Shigeki Sakata, Makoto Okamura, Michiharu Daito and Kiyoshi Ohura | 279 |
| **Role of Glutathione in the Antiulcer Effect of Hot Water Extract of Black Tea (*Camellia sinensis*)** | Swapna Maity, Joseph Rajan Vedasiromoni and Dilip Kumar Ganguly | 285 |
| **Decrease in Participation of Nitric Oxide in Nonadrenergic, Noncholinergic Relaxation of Rat Intestine With Age** | Tadayoshi Takeuchi, Satomi Niioka, Michiru Yamaji, Yutaka Okishio, Toshiaki Ishii, Hideaki Nishio, Koichi Takatsuji and Fumiaki Hata | 293 |
| **Effects of Monatepil Maleate, a New $Ca^{2+}$ Channel Antagonist With $\alpha_1$-Adrenoceptor Antagonistic Activity, on Cholesterol Absorption and Catabolism in High Cholesterol Diet-Fed Rabbits** | Akihisa Ikeno, Toshiki Sumiya, Hisao Minato, Buichi Fujitani, Yoshinobu Masuda, Kanoo Hosoki, Masuo Kurono and Masashi Yasuba | 303 |
| **Histamine $H_2$-Receptor Antagonism of T-593, an Anti-ulcer Agent: Studies on Aminopyrine Accumulation in Isolated Canine Gastric Mucosal Cells** | Masukazu Inoie, Shigeki Marubuchi and Hirotoshi Arai | 313 |
| **Norepinephrine- and $K^+$-Induced $Mn^{2+}$-Dependent Contractions and the Dynamics of Intracellular $Mn^{2+}$ Changes in Dispersed Smooth Muscle Cells From $Ca^{2+}$-Depleted $Mn^{2+}$-Loaded Vas Deferens of the Guinea Pig** | Hiromi Tsunobuchi-Ushijima, Kaoru Ikoma and Yasuo Gomi | 323 |

**Tamsulosin: $\alpha_1$-Adrenoceptor Subtype-Selectivity and Comparison With Terazosin** — Ikunobu Muramatsu, Takanobu Taniguchi and Kenichiro Okada — 331

**Itch-Associated Response and Antinociception Induced by Intracisternal Endomorphins in Mice** — Tomomi Yamaguchi, Kouki Kitagawa and Yasushi Kuraishi — 337

**Effects of Adrenergic and Nitrergic Blockade on Theophylline-Induced Increase in Peripheral Blood Flow in Rat Ear** — Fujiko Sanae and Hisao Hayashi — 345

**Cholesterol-Lowering Effects of NTE-122, a Novel Acyl-CoA:Cholesterol Acyltransferase (ACAT) Inhibitor, on Cholesterol Diet-Fed Rats and Rabbits** — Yukimasa Azuma, Takashi Kawasaki, Kiyohito Ikemoto, Keisuke Obata, Katsutoshi Ohno, Nobuko Sajiki, Toshihiro Yamada, Masahiro Yamasaki and Yoichi Nobuhara — 355

**Profile of JTE-522 as a Human Cyclooxygenase-2 Inhibitor** — Korekiyo Wakitani, Toyomichi Nanayama, Michiko Masaki and Mutsuyoshi Matsushita — 365

**(±)-*cis*-2-Methylspiro[1,3-oxathiolane-5,3′-quinuclidine] Hydrochloride, Hemihydrate (SNI-2011, Cevimeline Hydrochloride) Induces Saliva and Tear Secretions in Rats and Mice: The Role of Muscarinic Acetylcholine Receptors** — Yoshinori Iga, Hirohiko Arisawa, Nobuo Ogane, Yasunari Saito, Toshie Tomizuka, Yuzo Nakagawa-Yagi, Hiroaki Masunaga, Hiroshi Yasuda and Nobuo Miyata — 373

## Number 4 December 1998

**A Single Stranded DNA-Binding Protein, ssCRE-BP/Pur$\alpha$, in Rat Lung and Its Increase in Allergic Airway Inflammation** — Er-Qing Wei, Yasuyuki Irie, Che-Hui Kuo, Yun Ding, San-Yong Niu, Eunju Do and Naomasa Miki — 419

**Effect of Ambroxol on Oxygen Radical Production and Generation by Bronchoalveolar Lavage Cells in Young and Aged Guinea Pigs** — Shinji Teramoto, Masashi Suzuki, Takeshi Matsuse and Yasuyoshi Ouchi — 429

**Anti-ulcer Effects of Antioxidants, Quercetin, $\alpha$-Tocopherol, Nifedipine and Tetracycline in Rats** — Yoshinori Suzuki, Masashi Ishihara, Tetsuya Segami and Mikio Ito — 435

**Heroin Antinociception Changed From Mu to Delta Receptor in Streptozotocin-Treated Mice** — Jodie J. Rady, Jennifer M. Gorny and James M. Fujimoto — 443

**Effects of Peptidase Inhibitors, [D-Ala$^2$, Met$^5$]-Enkephalinamide and Antiserum to Methionine-Enkephalin Microinjected Into the Caudal Periaqueductal Gray on Morphine Withdrawal in Rats** — Yuko Fukunaga, Norihiro Inoue, Masahiko Miyamoto, Shiroh Kishioka and Hiroyuki Yamamoto — 455

**GTS-21, a Nicotinic Agonist, Attenuates Multiple Infarctions and Cognitive Deficit Caused by Permanent Occlusion of Bilateral Common Carotid Arteries in Rats** — Masato Nanri, Hidekazu Miyake, Yukihisa Murakami, Kinzo Matsumoto and Hiroshi Watanabe — 463

**A Quantitative Assay for Angiogenesis of Cultured Choroidal Tissues in Streptozotocin-Diabetic Wistar and Spontaneously Diabetic GK Rats** — Shinjiro Kobayashi, Mizuki Fukuta, Hitoshi Kontani, Sumino Yanagita and Ikuko Kimura — 471

**Effects of Ridogrel, a Thromboxane Synthase Inhibitor and Receptor Antagonist, on Blood Pressure in the Spontaneously Hypertensive Rat** — Dale W. Quest and Thomas W. Wilson — 479

**Effects of Peptidase Inhibitors on the Enkephalin-Induced Anti-nociception in Rats** — Takao Taniguchi, Xin-Tian Fan, Ken Kitamura and Tetsuo Oka — 487

**Effects of Low Temperature on the Chronotropic and Inotropic Responses to Zatebradine, E-4031 and Verapamil in Isolated Perfused Dog Atria** — Miho Kasama, Yasuyuki Furukawa, Takeshi Oguchi, Yuji Hoyano and Shigetoshi Chiba — 493

## Short Communications

### Number 1 September 1998


| | | |
|---|---|---|
| **Effect of Recombinant Human Insulin-Like Growth Factor-I on Expression of Glucose Transporters, GLUT 2 and GLUT 4, in Streptozotocin-Diabetic Rat** | Takashi Asada, Toshikazu Ogawa, Michio Iwai and Masakazu Kobayashi | 63 |
| **Production of Superoxide and Nitric Oxide by Alveolar Macrophages in the Bleomycin-Induced Interstitial Pneumonia Mice Model** | Chihiro Yamazaki, Jiro Hoshino, Tomoko Sekiguchi, Yusuke Hori, Satoshi Miyauchi, Syoji Mizuno and Katsuyuki Horie | 69 |
| **Involvement of N-Type Voltage-Activated $Ca^{2+}$ Channels in the Release of Endogenous Noradrenaline from the Isolated Vascularly Perfused Rat Stomach** | Kunihiko Yokotani, Yasunobu Okuma and Yoshitsugu Osumi | 75 |
| **Protective Effect of the Mold *Monascus Anka* Against Acetaminophen-Induced Liver Toxicity in Rats** | Yoko Aniya, Takahiro Yokomakura, Masato Yonamine, Tatsumi Nagamine and Hisaharu Nakanishi | 79 |
| **Inhibitory Effect of Endomorphin-1 and -2 on Acetylcholine Release From Myenteric Plexus of Guinea Pig Ileum** | Hideyuki Nishiwaki, Noriko Saitoh, Hideaki Nishio, Tadayoshi Takeuchi and Fumiaki Hata | 83 |
| **Effect of *Gosha-jinki-gan*, a *Kampo* Medicine, on Enhanced Platelet Aggregation in Streptozotocin-Induced Diabetic Rats** | Yasuyuki Suzuki, Kazuhiro Goto, Atsushi Ishige, Yasuhiro Komatsu and Junzo Kamei | 87 |
| **Involvement of $\mu$-Receptor in Endogenous Opioid Peptide-Mediated Inhibition of Acetylcholine Release From the Rat Stomach** | Kunihiko Yokotani and Yoshitsugu Osumi | 93 |
| **Effects of Concanavalin A Treatment on CD8 mRNA Expression in Mouse Liver** | Toshihiro Okamoto, Yoshihisa Nakano, Naoki Tsuzuike and Kaoru Hara | 97 |
| **Effect of Gadolinium Chloride Treatment on Concanavalin A-Induced Cytokine mRNA Expression in Mouse Liver** | Toshihiro Okamoto, Osamu Maeda, Naoki Tsuzuike and Kaoru Hara | 101 |
| **Vulnerability of Synaptic Plasticity in the Striatum of Methamphetamine-Sensitized Rats** | Ikumi Arai, Takao Shimazoe, Akiko Yoshimatsu, Hirotaka Inoue, Shigenobu Shibata and Shigenori Watanabe | 105 |


### Number 2 October 1998


| | | |
|---|---|---|
| **Dexamethasone Prevents the Decrease of Bone Mineral Density in Type II Collagen-Induced Rat Arthritis Model** | Toshiki Takagi, Peter W. Tsao, Ryuichi Totsuka, Tatsuo Suzuki, Takashi Murata and Isao Takata | 225 |
| **The Effect of Vasopressin V1- and V2-Receptor Antagonists on Hemodynamics in Early and Late Phase After Myocardial Infarction in Rats** | Hisayoshi Fujita, Minoru Yoshiyama, Kazuhide Takeuchi, Takashi Omura, Hiroyuki Yamagishi, Hiroshi Iwao, Katuyuki Miura and Junichi Yoshikawa | 229 |
| **Induction of Fas Ligand and Fas Antigen mRNA Expressions in Interferon-$\gamma$ Transgenic Mouse Liver** | Toshihiro Okamoto, Tomio Yamakawa, Ken-Ichi Yamamura and Okio Hino | 233 |
| **Variation of Monoamines and Their Metabolite Contents in the Cerebrospinal Fluid of Conscious Rats** | Yuji Wada, Toru Egashira, Fusako Takayama, Yasumitsu Yamanaka, Kaori Takada, Hiroshi Takeda and Teruhiko Matsumiya | 237 |


### Number 3 November 1998


| | | |
|---|---|---|
| **Comparative Study of [$^3$H]Ramosetron and [$^3$H]Granisetron Binding in the Cloned Human 5-Hydroxytryptamine$_3$ Receptors** | Shinobu Akuzawa, Hiroyuki Ito and Tokio Yamaguchi | 381 |
| **A Comparative Study on the Effects of Nicotine and GTS-21, a New Nicotinic Agonist, on the Locomotor Activity and Brain Monoamine Level** | Masato Nanri, Nobuo Kasahara, Jyunji Yamamoto, Hidekazu Miyake and Hiroshi Watanabe | 385 |
| **In Vitro Effects of Calcium Dobesilate on the Responsiveness of Spontaneously Diabetic Rat Aorta** | Mercedes Sanz, Emilio Ruiz, Patricia Ganado and Teresa Tejerina | 391 |
| **Possible Mechanism of Hypoglycemic Effect of 4-Hydroxybenzoic Acid, a Constituent of *Pandanus odorus* Root** | Penchom Peungvicha, Suwan S. Thirawarapan and Hiroshi Watanabe | 395 |

**Number 4 December 1998**

**Catecholaminergic Mechanisms-Mediated Hypothermia Induced by Magnolol in Rats** — Ming-Tsuen Hsieh, Fu-Yu Chueh, Shui-Mu Lin, Fu-Shin Chueh, Chieh-Fu Chen and Mao-Tsun Lin — 501

**Local Anti-inflammatory Activity and Systemic Side Effects of NM-135, a New Prodrug Glucocorticoid, in an Experimental Inflammatory Rat Model** — Takayuki Ishii, Nobuyuki Kibushi, Takashi Nakajima, Tae Kakuta, Noriko Tanaka, Chiaki Sato, Kei Sugai, Isao Kijima-Suda, Hirofumi Kai and Takeshi Miyata — 505

**Serotonin Receptor Subtypes Involved in Modulation of Electrical Acupuncture** — Jun Takagi and Norifumi Yonehara — 511

**Enhancement of Serotonin 2C Receptor mRNA Expression by Antidepressants Possessing the Receptor-Blocking Activity in the Rat Brain** — Michihisa Tohda and Hiroshi Watanabe — 515

**Teprenone, an Anti-ulcer Agent, Increases Gastric Mucosal Mucus Level via Nitric Oxide in Rats** — Keiji Nishida, Yoshiji Ohta and Isao Ishiguro — 519

**Higher Environmental Temperature Potentiates Cataleptic Effect of Fentanyl in Rats** — Sonja Vučković, Milovan Ivanović, Milica Prostran, Zoran Todorović, Zorana Ristović, Ivan Mićović and Dušan Beleslin — 523

## Rapid Communications

**Number 1 September 1998**

**Mouse Paw Edema Induced by a Novel Bradykinin Agonist and Its Inhibition by B2-Antagonists** — Akinori Ueno, Hiroaki Naraba and Sachiko Oh-ishi — 109

**Number 2 October 1998**

**Effect of KW-8232, a Novel Anti-osteoporotic Agent, on Bone Loss in Sciatic Neurectomized Rats** — Masako Uchii, Miyuki Takashima, Tomomi Sugiyama and Nobuo Kosaka — 241